AMSAT News Service Weekly Bulletins
Issue: ANS-232
Date: 2017-08-20
Sources: amsat-ans-2017-ans-232-weekly-hyperkitty-423f7e3542.txt

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AMSAT NEWS SERVICE
ANS-232

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-232 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 232.01
  From AMSAT HQ KENSINGTON, MD.
DATE August 20, 2017
To All RADIO AMATEURS
BID: $ANS-232.01

Cubesats Deployed During Russian EVA - TOMSK TPU-120 Reported Active

News on the AMSAT-UK webf described the hand-deployment plans of three Russian Cubesats during a spacewalk this week:

Expedition 52 Commander Fyodor Yurchikhin, RN3FI and Flight Engineer Sergey Ryazanskiy, of the Russian space agency Roscosmos, conducted a planned extravehicular activity from the ISS on Thursday, August 17.

Ryazanskiy began the schedule of extravehicular activities with the manual deployment of five nanosatellites from a ladder outside the airlock.

The satellites, each of which has a mass of about 11 pounds, have a variety of purposes. [the satellites are thought to include Tanyusha-SWSU 1 & 2 and Tomsk-TPU-120]

One of the satellites, with casings made using 3-D printing technology, will test the effect of the low-Earth-orbit environment on the composition of 3-D printed materials. Another satellite contains recorded greetings to the people of Earth in 11 languages. A third satellite commemorates

the 60th anniversary of the Sputnik 1 launch and the 160th
anniversary of the birth of Russian scientist Konstantin
Tsiolkovsky.

Thanks to Mike, DK3WN for this post-deployment information:
http://www.dk3wn.info/p/?cat=325
TOMSK TPU-120 (RS04S)   437.025 MHz   digital voice
Tanusha-SWSU-1 (RS-6S) 437.050 MHz   9k6 FSK, digital voice
Tanusha-SWSU-2 (RS-7S) 437.050 MHz   9k6 FSK, digital voice

[ANS thanks Mike, DK3WN, and AMSAT-UK for the above information]

Pat Gowen, G3IOR, Silent Key August 17

AMSAT-UK reported that Pat Gowen, G3IOR became a silent key
on August 17. Pat was the amateur radio operator who made the
discovery on June 21, 2002 that AO-7 was transmitting again.

Pat posted a message on the amsat-bb, "I have just come across
something most remarkable this Friday 21st June evening. Checking
out interlopers in our 145.800 - 146.000 MHz space band with a
new vertical now atop my 60' tower and working like magic, at
1728UTC I came across a beacon at S.7 sending slow 8 -10 wpm
CW on 145.973.8 MHz. It slowly Dopplered down to 145.970 MHz
before going out at 1739 UTC."

Pat's original message and follow-up replies can be accessed in the
amsat-bb archives:
http://www.amsat.org/amsat/archive/amsat-bb/200206/msg00525.html

[ANS thanks AMSAT-UK for the above information]

AMSAT Fox-1B Completes P-POD Integration

Tuesday, August 15 Jerry Buxton, NØJY, Vice President Engineering,
delivered RadFxSat, our AMSAT Fox-1B CubeSat, built in partnership
with Vanderbilt University to Cal Poly University.

RadFsSat/Fox-1B was successfully integrated into the P-POD cubesat
deployment container on August 16 along with her pod-mates
Makersat-0 and EagleSat. Launch qualification vibration testing
of the integrated P-POD was completed on August 17.

The P-POD will next be mounted on the ULA Delta II rocket for launch
no earlier than October 12, 2017.

At the conclusion of integration and testing Jerry commented, "Many
thanks to the Cal Poly, Tyvak, and NASA personnel who we performed
the integration with, to the Makersat-0 and EagleSat team members,
and to my west coast AMSAT CubeSat wing man Al Vasso for a successful
and fun day!"

Look for photos and more news to be published in the AMSAT Journal.

RadFxSat/Fox-1B
Uplink: 435.250 MHz FM (67.0 Hz CTCSS tone for access)

Downlink: 145.960 MHz FM (with subaudible slow speed telemetry data)
145.960 MHz 9600 baud FSK data

[ANS thanks Jerry Buxton, NØJY, AMSAT Vice President Engineering for the above information]

AMSAT Phase 4 Groundstation Update Report

Michelle Thompson, W5NYV has published this week's AMSAT Phase 4 Ground Weekly Report - video here: https://www.youtube.com/watch?v=FZxGfh1Es_I&feature=youtu.be

The video provides photos and full discussion of the Team's report. Below is a summary of the highlights, editted for the news format of the e-mailed ANS bulletins.

So there's quite the backlog. Let's get caught up. We have a True Position GPS 10 MHz reference with Arduino and display. A very nice system for the money, and we have a session scheduled with the local microwave club to get them up and running for some Phase 4 Ground receiver development.

LDPC decode work took some strides forward primarily due to Charles Brain G4GUO and Jan Schiefer AC7TD. Check out the repository in the notes. There will be some more updates there very soon on-line at: https://github.com/phase4ground/DVB-receiver

Two B200s compliments of Ettus Research have been delivered to Phase 4 Ground members for R&D. Wally Ritchie WU1Y and Mike Sprenger and Tony Stone W4UOO & W4TAS are the current responsible parties and are learning and doing. This very generous donation is greatly appreciated. If you are in the market for a lab-grade SDR, then go to Ettus and tell them Michelle W5NYV sent you.

We're making progress on receivers for DVB-S2 in GNU Radio. We demonstrated the current smoking pile of various blocks at Hamvention, and then Maker Faire, and then DEFCON. We will next bring our work to GNU Radio Conference in September, hopefully that same weekend at TAPR DCC, and then we will bring what will by then be a complete and perfect flow graph to AMSAT Symposium in October. An added bonus? If we can swing it, we'll bring all the wireless challenge exercises from GNU Radio Conference to AMSAT Symposium and be on hand to teach anyone that wants to learn how to use GNU Radio to solve them.

Oh, and there's another Maker Faire in there somewhere and I think we should set up a booth. If you're in or around San Diego, Maker Faire will be at Balboa Park on October 7-8. I have a tower trailer for traditional demonstrations but I'm looking to show off satellite, SDR, and digital microwave.

We will have Phase 4 Ground members at Microwave Update, IEEE conferences, GNU Radio Conference, TAPR DCC, and AMSAT Sympsosium. Most of these conferences will have papers and/or presentations. If you have never been to any of them, please check them out. These are some of the premier annual events for various overlapping technical communities. We had a very successful Hamvention.

Visit https://youtu.be/vHI96TRXchk for a great video of our Hamvention AMSAT engineering booth! Thank you to EC1AME for posting this.

We had an extremely successful DEFCON. Phase 4 Ground promoted AMSAT, SDRs, and GNU Radio to one of the largest and most enthusiastic crowds we've ever seen. This was the 25th anniversary of DEFCON, in a new location, and we were invited to be a part of the Wireless Village for all three days as an anchor exhibit and demonstration station. This was a very successful outreach by any measure and we are already planning for next year.

If you can help with the GNU Radio DVB-S2 receiver blocks, then do it now because we need more people working on it to make quick progress. Other areas of activity are Phase 4 Ground support of the wireless signal intelligence competition, or CTF, at GNU Radio Conference, and a hackable amateur radio themed badge project. Steve Conklin is coordinating and his first deadline is a February hardware hackers cruise out of San Diego. Next stop after that, Hamvention 2018. If you are interested in badgelife, Bluetooth, integrating VHF/UHF into a hackable wearable badge project, then do we have a challenge for you.

Phase 4 Ground will also be at Burning Man. An upcoming video will focus on what we learn from our desert hackathon. The focus will be on getting ahead on DVB-S2 receive and coming up with challenges for the GNU Radio CTF.

If you have not got your ticket to GNU Radio Conference, then please do. Link in the notes. www.gnuradio.org

Besides producing a radio for AMSAT five and dime, we all want to show how truly fun SDR and GNU Radio and embedded devices and digital communications really are. If you have questions or don't know where to start, then please write me w5nyv(a)yahoo.com

[ANS thank Michelle Thompson, W5NYV for the above information]

AMSAT 2017 Symposium Call for Papers

This call for papers is for the 2017 AMSAT Annual Meeting and Space Symposium to
be held on the weekend of October 27, 28, 29, 2017 at the Silver Legacy Resort,
Reno, Nevada. Proposals for papers, symposium presentations and poster presentations are invited on any topic of interest to the amateur satellite community. We request a tentative title of your presentation as soon as possible, with final copy to be submitted by October 6 for inclusion in the printed proceedings. Abstracts and papers should be sent to Dan Schultz N8FGV at
n8fgv at amsat.org

[ANS thanks Dan, N8FGV, for the above information]

AMSAT Journal Packet Articles Added to Station and Operating Hints Page

The AMSAT Station and Operating Hints page has been updated to include PDF copies of the packet operating articles recently published in the AMSAT Journal. See https://www.amsat.org/station-and-operating-hints/

+ January/February 2017 AMSAT Journal article "Get on the Air with ARISS

Packet" (PDF ~500 KB) – How to set up and use computer & soundcard to work the packet system aboard the ISS and other APRS-capable satellites.

+ January/February 2017 AMSAT Journal article "Working Digipeaters with the Kenwood TH-D72A and TH-D74A" (PDF ~300 KB) – How to use the packet/APRS capability of these radios to work the packet system aboard the ISS and other APRS-capable satellites.

AMSAT members received this issue of the AMSAT Journal several months ago. The AMSAT Journal is a premium membership benefit of AMSAT. Please consider joining AMSAT if you are not already a member. Visit https://www.amsat.org/product-category/amsat-membership/ to sign up today!

[ANS thanks the AMSAT Web Page Guys for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Lee McLamb, KT4TZ
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